



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/751,159	01/02/2004	Jayanth Puttappa	RHV-P0004.01	1864
27268	7590	01/12/2006	EXAMINER	
BAKER & DANIELS LLP 300 NORTH MERIDIAN STREET SUITE 2700 INDIANAPOLIS, IN 46204			CONNOLLY, PATRICK J	
			ART UNIT	PAPER NUMBER
			2877	

DATE MAILED: 01/12/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/751,159	PUTTAPPA ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Patrick J. Connolly	2877	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 24 August 2005.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-23 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 02 January 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)               | Paper No(s)/Mail Date. _____  |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>01.02.04</u> .  | 6) <input type="checkbox"/> Other: _____                                    |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 112*

Claims 1-14 provide for the use of a coherent light source, a camera and a processor, but, since the claim does not set forth any steps involved in the method/process, it is unclear what method/process applicant is intending to encompass. A claim is indefinite where it merely recites a use without any active, positive steps delimiting how this use is actually practiced.

Claims 1-14 are rejected under 35 U.S.C. 101 because the claimed recitation of a use, without setting forth any steps involved in the process, results in an improper definition of a process, i.e., results in a claim which is not a proper process claim under 35 U.S.C. 101. See for example *Ex parte Dunki*, 153 USPQ 678 (Bd.App. 1967) and *Clinical Products, Ltd. v. Brenner*, 255 F. Supp. 131, 149 USPQ 475 (D.D.C. 1966).

The Examiner notes that claims 1-15 contain the limitation “capable of”, a limitation that is not given patentable weight, as it is language of intended use.

### *Claim Rejections - 35 USC § 102*

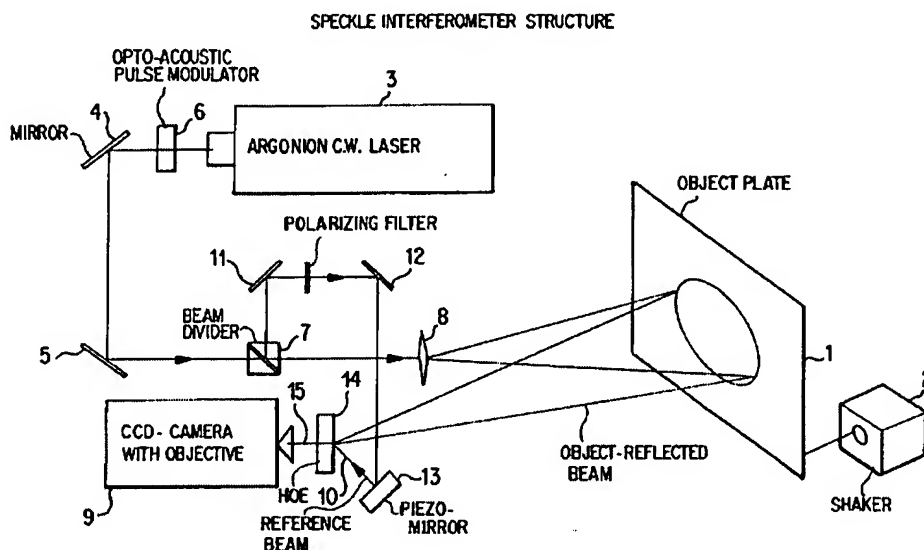
The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 2, 11-15, 21 and 23 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by U.S. Patent No. 5,841,030 to Honsberg et al (hereafter Honsberg).

As to claims 1 and 15, Honsberg discloses a method and apparatus for determining the vibration characteristics of a body including (see Figure 1 below):



a source of coherent light aimed at a specimen (3);  
a camera obtaining a plurality of images of the specimen (9); and  
a processor coupled to the camera for performing speckle analysis on a plurality of images (see column 4, lines 1-32).

As to claim 2, Honsberg discloses determining intensity values from the images (see column 3, lines 20-35).

As to claims 11 and 21, Honsberg discloses a laser source (see 3, Argon CW Laser above)

As to claims 13 and 23, Honsberg discloses a vibration source (see 2, Shaker above)

As to claim 14, Honsberg discloses an optical device that expands the beam of light from the source (8, above).

*Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 3-10, 12, 16-20 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Honsberg as applied above.

As to claim 3, Honsberg does not disclose a specific format in which the camera stores the speckle images.

The Examiner takes Official Notice of the fact that it is well known to use various formats including 8 bit bitmap, CIN and JPEG formats to store electronic or digital images, based on the memory constraints and preferences for data extraction.

It would have been obvious to one of ordinary skill in the art at the time of invention to store the data of Honsberg in an appropriate format, such as one of those listed above, so as to achieve the preferred image data characteristics.

As to claim 4, Honsberg does not teach normalizing the intensity data before analyzing it.

The Examiner takes Official Notice of the fact that it is well known to normalize intensity data from optical tests so as to eliminate background noise and achieve accurate and stable measurements.

It would have been obvious to one of ordinary skill in the art at the time of invention to normalize the data of Honsberg before analyzing so as to achieve said advantages.

As to claims 5 and 16, Honsberg does not specifically disclose an image capture rate for the camera.

The Examiner takes Official Notice of the fact that image capture rates of 100 images or more per second are notoriously well known in the art, and further that it is well known to that taking a greater number of images yields greater resolution of image data analysis.

It would have been obvious to one of ordinary skill in the art at the time of invention to used a camera with a high image capture capability in the method and apparatus of Honsberg so as to achieve said advantages in resolution.

As to claim 6, Honsberg does not disclose a specific memory capability of the camera.

The Examiner takes Official Notice of the fact that it is well known in image analysis to provide memory storage capable of storing multiple images. Further it is well known to store as many image as needed for image analysis so that the desired accuracy of the data analysis of the image can be achieved.

It would have been obvious to one of ordinary skill in the art at the time of invention to include memory sufficient to store 300 images or more in the camera of Honsberg so as to achieve an accurate analysis of the image data collected.

As to claims 7-10 and 17-20, Honsberg discloses performing a modal analysis on the speckle images.

The Examiner takes Official Notice of the fact that Fourier Transform, Power Spectral Density, Fractal Dimension Calculation and Wavelet Transform analyses are all well-known image analysis techniques, and are known to offer specific advantages based on the information objectives of the data analysis.

Art Unit: 2877

It would have been obvious to one of ordinary skill in the art at the time of invention to choose from among any number of image data analysis techniques so as to achieve the information desired from the captured images of Honsberg.

As to claims 12 and 22, Honsberg does not teach a closed loop detection configuration.

The Examiner takes Official Notice of the fact that it is well known to employ closed loop detection in image analysis so as to achieve more stable image data.

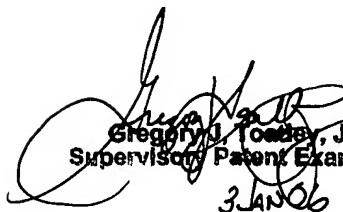
It would have been obvious to one of ordinary skill in the art at the time of invention to include a closed loop detection configuration in the apparatus and method of Honsberg so as to achieve more stable image data collection.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Patrick J. Connolly whose telephone number is 571.272.2412. The examiner can normally be reached on 9:00 am - 7:00 pm Monday-Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gregory J. Toatley, Jr. can be reached on 571.272.2800 ext. 77. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

pjc/p7L  
12.24.1005

  
Gregory J. Toatley, Jr.  
Supervisor Patent Examiner  
3 JAN 06